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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,058	10/26/2001	Alexander I. Krymski	08305-087002	9431

7590 11/10/2004
Dickstein Shapiro Morin & Oshinsky LLP
Attn: Thomas J. D'Amico
2101 L Street NW
Washington, DC 20037-1526

EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/040,058	KRYMSKI ET AL.	
	Examiner	Art Unit	
	Thanh X Luu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,13-15,20-22 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,13-15,20-22 and 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to amendments and remarks filed September 22, 2004. Claims 1, 3, 4, 13-15, 20-22 and 25-30 are currently pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 4, 20, 22, 25, 26, 28 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Merrill et al. (U.S. Patent 6,369,853).

Regarding claims 1, 3, 4, 20, 22, 25, 26, 28 and 29, Merrill et al. disclose (see Figs. 6 and 7) an active pixel sensor (APS) comprising: a p-well (128); a photoreceptor (at 122) outside the p-well; an NMOS frame shutter (transistors 84, 88, see col. 7, lines 28-35) within the p-well; and an APS readout (92, 94, 96) for receiving charges from the NMOS frame shutter. Merrill et al. also disclose (see Figs. 6 and 7) the frame shutter includes sample and hold (86, 88, 92), reset circuits (84), source follower (92) and row select (94) transistors, which further comprises NMOS transistors.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-15, 21, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill et al. in view of Yang et al. ("A Snap-Shot CMOS Active Pixel Imager for Low-Noise, High-Speed Imaging", published December 1998).

Regarding claims 13-15, 21, 27 and 30, Merrill et al. disclose the claimed invention as set forth above. Merrill et al. do not specifically disclose a pinned photodiode. Yang et al. teach (see column 1) that active pixel sensors may also comprise pinned photodiode pixels. Thus, Yang et al. recognize that pinned photodiodes are typical in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a pinned photodiode in the apparatus of Merrill et al. in view of Yang et al. as desired for improved response.

Response to Arguments

5. Applicant's arguments filed September 22, 2004 have been fully considered but they are not persuasive.

Applicant asserts that Merrill et al. disclose a storage pixel sensor with a capacitive storage element and not the claimed invention. Examiner disagrees. The claim language does not preclude a pixel sensor with a capacitive storage element. As set forth above, Merrill et al. does disclose the claimed invention. Applicant's general and conclusory statements are not found to be persuasive.

Applicant further asserts that it would not have been obvious to combine Merrill et al. in view of Yang. Examiner disagrees. Yang simply teaches that APS sensors

could be made from pinned photodiodes. As set forth above, it requires only routine skill in the art and obvious to one of ordinary skill in the art to choose pinned photodiodes for the APS sensor of Merrill et al.

Applicant also asserts that Merrill et al. and Yang do not disclose fabricating in a substrate. Since such language is no longer found in the claims, Applicant's assertions are irrelevant.

Thus, as set forth above, this rejection is proper.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X Luu whose telephone number is (571) 272-2441. The examiner can normally be reached on M-F (6:30-4:00) First Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thanh X Luu', with a long horizontal flourish extending to the right.

Thanh X Luu
Primary Examiner
Art Unit 2878

11/2004